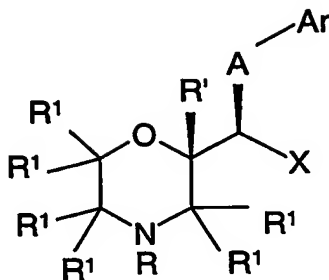


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## CLAIMS

1. A compound of formula (I)



(I)

wherein:

A is S or O;

R is H;

Ar is a phenyl group optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from C<sub>1</sub>-C<sub>4</sub> alkyl, O(C<sub>1</sub>-C<sub>4</sub> alkyl), S(C<sub>1</sub>-C<sub>4</sub> alkyl), halo, hydroxy, CO<sub>2</sub>(C<sub>1</sub>-C<sub>4</sub> alkyl), pyridyl, thiophenyl and phenyl optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from halo, C<sub>1</sub>-C<sub>4</sub> alkyl, or O(C<sub>1</sub>-C<sub>4</sub> alkyl);

X is a phenyl group optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from halo, C<sub>1</sub>-C<sub>4</sub> alkyl, or O(C<sub>1</sub>-C<sub>4</sub> alkyl); a C<sub>1</sub>-C<sub>4</sub> alkyl group; a C<sub>3</sub>-C<sub>6</sub> cycloalkyl group or a CH<sub>2</sub>(C<sub>3</sub>-C<sub>6</sub> cycloalkyl) group;

R' is H or C<sub>1</sub>-C<sub>4</sub> alkyl;

each R' is independently H or C<sub>1</sub>-C<sub>4</sub> alkyl;

wherein each above-mentioned C<sub>1</sub>-C<sub>4</sub> alkyl group is optionally substituted with one or more halo atoms;

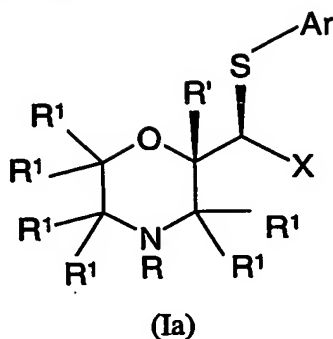
or a pharmaceutically acceptable salt thereof;

with the proviso that, when A is O, X is a C<sub>1</sub>-C<sub>4</sub> alkyl group, a C<sub>3</sub>-C<sub>6</sub> cycloalkyl group or a CH<sub>2</sub>(C<sub>3</sub>-C<sub>6</sub> cycloalkyl) group.

2. A compound as claimed in claim 1 where A is S.

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## 3. A compound of formula (Ia)



wherein:

5 R is H;

Ar is a phenyl group optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from C<sub>1</sub>-C<sub>4</sub> alkyl, O(C<sub>1</sub>-C<sub>4</sub> alkyl), S(C<sub>1</sub>-C<sub>4</sub> alkyl), halo, and phenyl optionally substituted with substituents each independently selected from halo, C<sub>1</sub>-C<sub>4</sub> alkyl, or O(C<sub>1</sub>-C<sub>4</sub> alkyl);

10 X is a phenyl group optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from halo, C<sub>1</sub>-C<sub>4</sub> alkyl, or O(C<sub>1</sub>-C<sub>4</sub> alkyl);

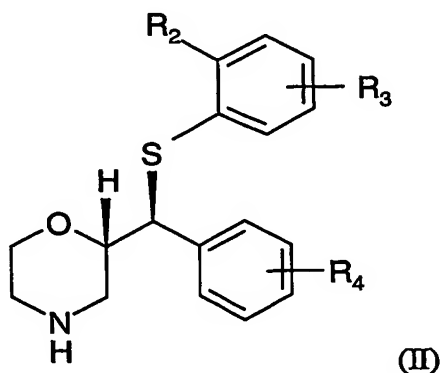
R' is H or C<sub>1</sub>-C<sub>4</sub> alkyl;

each R<sup>1</sup> is independently H or C<sub>1</sub>-C<sub>4</sub> alkyl;

wherein each above-mentioned C<sub>1</sub>-C<sub>4</sub> alkyl group is optionally substituted with one  
15 or more halo atoms;

and pharmaceutically acceptable salts thereof.

## 4. A compound as claimed in any one of the preceding claims, represented by the formula (II);



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wherein

R<sub>2</sub> and R<sub>3</sub> are each independently selected from H, C<sub>1</sub>-C<sub>4</sub> alkyl, O(C<sub>1</sub>-C<sub>4</sub> alkyl), S(C<sub>1</sub>-C<sub>4</sub> alkyl), halo and phenyl; and

R<sub>4</sub> is selected from H and C<sub>1</sub>-C<sub>4</sub> alkyl;

5 wherein each above-mentioned C<sub>1</sub>-C<sub>4</sub> alkyl group is optionally substituted with one or more halo atoms;

and pharmaceutically acceptable salts thereof.

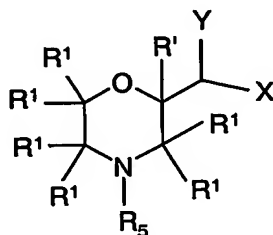
10 5. A compound as claimed in claim 4, wherein R<sub>2</sub> is selected from C<sub>1</sub>-C<sub>4</sub> alkyl, O(C<sub>1</sub>-C<sub>4</sub> alkyl), F and Ph; wherein each above-mentioned C<sub>1</sub>-C<sub>4</sub> alkyl group is optionally substituted with one or more halo atoms.

6. A compound as claimed in any one of claims 4 and 5, wherein R<sub>3</sub> is hydrogen.

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7. A compound as claimed in any one of claims 4, 5 and 6, wherein R<sub>4</sub> is hydrogen.

20 8. A method of preparing a compound as claimed in any one of the preceding claims, comprising reacting a compound of the formula (III):



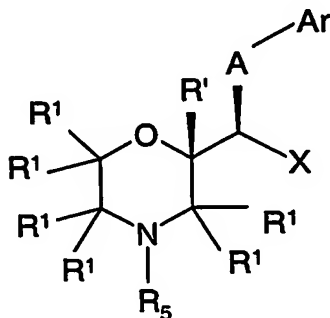
(III)

where R<sub>5</sub> is a protecting group, e.g. benzyl, X, R' and R<sup>1</sup> are as defined in formula (I) in claim 1 above and Y is a leaving group, with an aryl thiol or hydroxy aryl compound.

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9. A method of preparing a compound as claimed in any one claims 1 to 7, comprising deprotecting a compound of the formula (IV):



(IV)

where  $R_5$  is a protecting group and A, Ar, X,  $R'$  and  $R^1$  are as defined in formula (I) in claim 1 above to provide a compound of formula (I), optionally followed by the step of forming a pharmaceutically acceptable salt.

10. A compound as claimed in any one of claims 1-7, for use as a pharmaceutical.

11. A compound as claimed in any one of claims 1-7, for use as a selective inhibitor of the reuptake of norpinephrine.

12. The use of a compound as claimed in any one of claims 1-7, for treating a disorder associated with norepinephrine dysfunction in mammals.

13. The use of a compound as claimed in any one of claims 1-7, for the manufacture of a medicament for treating a disorder associated with norepinephrine dysfunction in mammals.

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14. A method for selectively inhibiting the reuptake of norepinephrine in mammals, comprising administering to a patient in need thereof an effective amount of a compound as claimed in any one of claims 1-7, or a pharmaceutically acceptable salt thereof.

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15. A method for treating disorders associated with norepinephrine dysfunction in mammals, comprising administering to a patient in need thereof an effective amount of a compound as claimed in any one of claims 1-7, or a pharmaceutically acceptable salt thereof.

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16. A method or use as claimed in any one of claims 12, 13 and 15, wherein the disorder is selected from nervous system conditions selected from the group consisting of an addictive disorder and withdrawal syndrome, an adjustment disorder (including depressed mood, anxiety, mixed anxiety and depressed mood, disturbance of conduct, and mixed disturbance of conduct and mood), an age-associated learning and mental disorder (including Alzheimer's disease), alcohol addiction, anorexia nervosa, apathy, an attention-deficit disorder (ADD) due to general medical conditions, attention-deficit hyperactivity disorder (ADHD), bipolar disorder, bulimia nervosa, chronic fatigue syndrome, chronic or acute stress, cognitive disorders including mild cognitive impairment (MCI) and cognitive impairment associated with schizophrenia (CIAS), conduct disorder, cyclothymic disorder, dementia of the Alzheimers type (DAT), depression (including adolescent depression and minor depression), dysthymic disorder, emotional dysregulation, fibromyalgia and other somatoform disorders (including somatization disorder, conversion disorder, pain disorder, hypochondriasis, body dysmorphic disorder, undifferentiated somatoform disorder, and somatoform NOS), generalized anxiety disorder, hypotensive states including orthostatic hypotension, incontinence (i.e., stress incontinence, genuine stress incontinence, and mixed incontinence), an inhalation disorder, an intoxication disorder, mania, migraine headaches, neuropathic pain, nicotine addiction, obesity (i.e., reducing the weight of obese or overweight patients), obsessive compulsive disorders and related spectrum disorders, oppositional defiant disorder, pain including chronic pain, neuropathic

pain and antinociceptive pain, panic disorder, peripheral neuropathy, post-traumatic stress disorder, premenstrual dysphoric disorder (i.e., premenstrual syndrome and late luteal phase dysphoric disorder), psoriasis, psychoactive substance use disorders, a psychotic disorder (including schizophrenia, schizoaffective and schizophreniform disorders), seasonal affective disorder, a sleep disorder (such as narcolepsy and enuresis), social phobia (including social anxiety disorder), a specific developmental disorder, selective serotonin reuptake inhibition (SSRI) "poop out" syndrome (i.e., wherein a patient who fails to maintain a satisfactory response to SSRI therapy after an initial period of satisfactory response), TIC disorders (e.g., Tourette's Disease), tobacco addiction and vascular dementia.

17. A method or use as claimed in any one of claims 12, 13 and 15, wherein the disorder is attention deficit hyperactivity disorder, ADHD.

15 18. A composition comprising a compound as claimed in any one of claims 1 to 7, or a pharmaceutically acceptable salt thereof, together with a pharmaceutically acceptable diluent, excipient or carrier.